

ABSTRACT

5 An improvement to a code-division-multiple-access (CDMA) system employing spread-spectrum modulation, with the CDMA system having a base station (BS) and a plurality of remote stations. The base station has a BS-spread-spectrum transmitter and a BS-spread-spectrum receiver. A remote station has an RS-spread-spectrum transmitter and an RS-spread-spectrum receiver. The BS transmitter transmits a broadcast common-synchronization channel, which includes a frame-timing signal. The broadcast common-synchronization channel has a common chip-sequence signal, which is common to the plurality of remote stations. In response to the RS-spread-spectrum receiver receiving the broadcast common-synchronization channel, and determining frame timing from the frame-timing signal, an RS-spread-spectrum transmitter transmits an access-burst signal. The access-burst signal includes a collision-detection portion. In response to the BS-spread-spectrum receiver receiving the access-burst signal, the BS-spread-spectrum transmitter transmits a collision-detection signal with the collision detection portion. In response to the BS-spread-spectrum receiver not receiving the access-burst signal due to a collision with a collision access-burst signal, the BS-spread-spectrum transmitter transmits a collision-detection signal without the correct collision detection portion.

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